

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Original) A method for producing regenerable sulfur sorbents comprising the steps of:

mixing a support material precursor, isopropanol and a first portion of deionized water at an elevated temperature, forming a sol mixture;

dissolving a metal oxide precursor comprising a metal suitable for use as a sulfur sorbent in a second portion of deionized water, forming a metal salt solution;

mixing said sol mixture and said metal salt solution with a sol peptizing agent while heating and stirring, forming a peptized sol mixture;

dispersing said metal oxide precursor substantially throughout said peptized sol mixture;

drying said peptized sol mixture, forming a dry peptized sol mixture, and calcining said dry peptized sol mixture, forming a calcined material; and

converting said calcined material to particles.

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2. (Original) A method in accordance with Claim 1, wherein said metal oxide is selected from the group consisting of zinc oxide and copper oxide.

3. (Original) A method in accordance with Claim 2, wherein said metal oxide is zinc oxide.

4. (Original) A method in accordance with Claim 1, wherein said support material is an oxide of an element selected from the group consisting of aluminum, zirconium, silicon and mixtures thereof.

5. (Original) A method in accordance with Claim 1, wherein said dry peptized sol mixture is calcined at a temperature in a range of about 400°C to about 500°C.

6. (Original) A method in accordance with Claim 1, wherein said particles have a diameter in a range of about 45 microns to about 300 microns.

7. (Original) A method in accordance with Claim 1, wherein said particles comprise a range of about 10% to about 60% by weight of said metal oxide.

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Claims 8-15 (Canceled)